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| 09/751,959 | 12/29/2000 | Ludwig Hofmann | GR 98 P 1974 P | 8500 |
| 24131 | 7590 | 11/02/2004 | EXAMINER | |
| LERNER AND GREENBERG, PA P O BOX 2480 HOLLYWOOD, FL 33022-2480 | | | IQBAL, KHAWAR | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2686 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,959

Applicant(s)

HOFMANN, LUDWIG

Examiner

Khawar Iqbal

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,3,5-7,9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Anderson (5721783).

3. Regarding claim 1 Papadakis et al teaches a method for transmitting data between a head part and a base part of a hands-free telephone, which comprises (figs. 1,6):

digitizing information to be transmitted (figs. 1,6, element 26) (col. 9, lines 24-27);
spreading the digitized information over a wider frequency band using a CDMA technique (col.9, lines 24-27);

performing a digital to analog (304) conversion on the spread digitized information (col. 9, lines 27-30);

converting the digital to analog converted (304) spread information into an ultrasound signal (col. 9, lines 31-35); and

transmitting the ultrasound signal via an air interface (fig.6, element 26) (col. 9, lines 31-35);

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at a receiver component, receiving the transmitted ultrasound signal and converting the received ultrasonic signal into an analog electrical signal (col.9, lines 35-41);

performing an analog to digital conversion on the analog electrical signal (col. 9, lines 35-41);

despreading the analog to digital converted signal using a CDMA technique; and decoding the despread analog to digital converted signal (col.5, lines 55-65, col. 9, lines 35-45). Papadakis et al teaches Ultrasonic flaw detection system using spread-spectrum coded signals - transmits wideband carrier, phase-modulated with pseudo-random code, cross-correlating returned signals with time-delayed replica thereof. Papadakis et al does not specifically teach compressing information, being the voice data, to be transmitted using compressing coding.

In an analogous art, Anderson teaches compressing information, being the voice data, to be transmitted using compressing coding (col. 16, lines 5-12 and 25-38, col. 25, lines 10-14). Wireless hearing aid apparatus - has remote processor, which receives signal transmitted via microphone in earpiece, enhances signal and retransmits signal back to speaker transducer in earpiece. The 15-bit address is followed by an 8-bit audio data field, for which the most significant bit is transmitted first. The audio data is an 8-bit companded (compressed/expanded) sample, representing one value of an audio waveform sampled at the 12.5 KHz repetition frequency described earlier, resulting in a 100 Kbits/sec effective audio data rate between the RPU and each earpiece. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to modify the device of Papadakis et al by specifically adding feature compressing coding in order to enhance system performance of the system purpose of increasing coding efficiency as taught by Anderson.

Regarding claim 7 Papadakis et al teaches a hands-free telephone comprising an ultrasonic transmission system including (figs. 1,6):

a CDMA spreader for spreading digital information to a number of carrier frequencies using a CDMA technique (col. 9, 24-45);

a digital to analog converter for digital to analog converting the spread information (col. 9, 24-35); and

an ultrasonic transducer for converting the digital to analog converted spread information into an ultrasound signal and for transmitting the ultrasound signal over an air interface (col. 9, 24-35). Papadakis et al teaches Ultrasonic flaw detection system using spread-spectrum coded signals - transmits wideband carrier, phase-modulated with pseudo-random code, cross-correlating returned signals with time-delayed replica thereof. Papadakis et al does not specifically teach compressing information to be transmitted using compressing coding.

In an analogous art, Anderson teaches compressing information, to be transmitted using compressing coding (col. 16, lines 5-12 and 25-38, col. 25, lines 10-14). Wireless hearing aid apparatus - has remote processor, which receives signal transmitted via microphone in earpiece, enhances signal and retransmits signal back to speaker transducer in earpiece. The 15-bit address is followed by an 8-bit audio data field, for which the most significant bit is transmitted first. The audio data is an 8-bit

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companded (compressed/expanded) sample, representing one value of an audio waveform sampled at the 12.5 KHz repetition frequency described earlier, resulting in a 100 Kbits/sec effective audio data rate between the RPU and each earpiece. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al by specifically adding feature compressing coding in order to enhance system performance of the system purpose of increasing coding efficiency as taught by Anderson.

Regarding claim 10 Papadakis et al, as modified by Anderson, clearly teach the claimed invention applied to claim 7 above, and in addition Papadakis et al teaches at a receiver component (fig. 1,6), receiving (30) the transmitted ultrasound signal and converting the received ultrasonic signal into an analog electrical signal (306); performing an analog to digital conversion on the analog electrical signal (42) (col. 5, lines 55-65, col. 9, lines 35-55); despreding the analog to digital converted signal using a CDMA technique (col. 5, lines 55-65, col. 9, lines 35-55).

Regarding claims 3 and 9 ad as applied to claims 1 and 7 above, Papadakis et al and does not specifically teach reducing an effective bit rate of the information to be transmitted to about 1-10 kbit/s when performing the compression coding.

In an analogous art, Anderson teaches which comprises reducing an effective bit rate of the information to be transmitted to about 1-10 kbit/s when performing the compression coding (col. 16, lines 5-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al by specifically adding a 1-10 kbit/s when performing the compression

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coding for the purpose of increasing the efficiency of the coding system taught by Anderson.

Regarding claim 6 as applied to claim 1 above Papadakis et al does not specifically teach information is spread to $\pm 100\text{kHz}$.

In an analogous art, Anderson teaches information is spread to $\pm 100\text{kHz}$ (col. 16, lines 5-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al ~~and Muzilla et al~~ by specifically adding a information is spread to $\pm 100\text{kHz}$ for the purpose of increasing the efficiency of the system taught by Anderson.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papadakis et al (5461921) and further in view of Anderson (5721783) and Nakamura (4591811).

Regarding claim 5 Papadakis et al as modified by Anderson do not specifically teach wherein in performing the step of transmitting the ultrasound signal, the ultrasound signal is transmitted at a frequency between 200 and 400 kHz.

In an analogous art, Nakamura teaches the ultrasound signal is transmitted at a frequency between 200 and 400 kHz (col. 1, lines 19-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Papadakis et al and Anderson by specifically adding a the ultrasound signal is transmitted at a frequency between 200 and 400 kHz for the purpose of increasing the efficiency of the system taught by Nakamura.

Response to Arguments

4. Applicant's arguments with respect to claims 1,3,5-7,9 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Claims 2,4 and 8 have been cancelled.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **BANKS-HAROLD, MARSHA**, can be reached at 703-305-4379.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

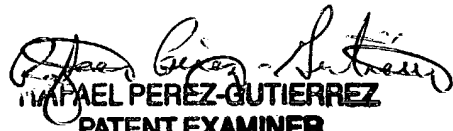
(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal


RAFAEL PEREZ-GUTIERREZ
PATENT EXAMINER
10/30/07